Prepared for

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DRAFT RESTRICTED ACTIVITIES WORK PLAN

HUNTERS POINT ARTISTS' PROJECT
NAVY PARCELS B-1, C, AND UC-2
HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

Prepared by

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The LUCRDs allow for the development of a Risk Management Plan (RMP), which sets forth conditions, requirements, and/or protocols that allow certain activities to be conducted that would otherwise be restricted. The RMP for Parcels UC-1 and UC-2 was finalized and approved by the FFA Signatories on 31 March 2015. This Restricted Activities Work Plan relies upon the protocols specified in the approved RMP. It details the specific activities and the controls to be implemented to ensure construction worker safety and to protect and restore the integrity of the remedy for the protection of public health.

1.2 Project Description

To support the existing artist community at HPS, the artists will be relocated from various HPS buildings to a portion of existing Building 101 and a new Artists' Building, which will be constructed as part of the HPAP. The limits of the project are depicted in Figure 2. The HPAP includes demolition of existing Buildings 109 and 110, construction of a new Artists' Building, construction of a new commercial kitchen, reconfiguration and upgrading Building 101, and installation/reconfiguration of supporting infrastructure (roads and utilities) to support the redevelopment. The portion of work to be performed on Navy Property (Parcels B-1 and C) is located in the proximity of Robinson Street and Horne Avenue.

The HPAP project will impact the existing Durable Covers installed as part of the CERCLA-required soil remedies at Parcels B-1, C, and UC-2. New cover remedies will be installed, or existing covers replaced, to the specifications provided in the Navy's RDs and Remedial Action Work Plans (RAWPs) for Parcels B-1, C, and UC-2 (ERRG, 2012a, ERRG, 2012b, ERRG, 2014b).

1.3 Project Organization

CP DevCo has entered into a Disposition and Development Agreement with OCII, which gives CP DevCo rights to develop the property. The project organization includes representatives from CP DevCo, OCII, the Navy and the prime contractor. The areas of responsibility for each organization are discussed below. Figure 3 is an organizational chart that identifies the relationships between key project personnel, as well as their organizational relationships.

2. ENVIRONMENTAL CONDITION OF THE PROPERTY

The environmental condition of Parcels B-1, C and UC-2 are summarized in the following Sections. The HPS information repositories also contain the documents discussed in Section 2 and elsewhere in this Restricted Activities Work Plan. The HPS repositories are maintained as follows:

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, California 94102
Phone: 415-557-4500

Bayview/Anna E. Waden Branch Library
5075 Third Street
San Francisco, California 94124
Phone: 415-355-5757

DTSC file room
700 Heinz Avenue
Berkeley, CA 94710.
Phone: 510-540-3800

2.1 Parcel B-1

Industrial and radiological research activities conducted by the Navy or other tenants at Parcel B-1 have resulted in metals (primarily arsenic and manganese), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs) in soil; VOCs (primarily trichloroethene (TCE) and its degradation product vinyl chloride) in groundwater; volatile chemicals, primarily TCE and vinyl chloride, in soil gas near Building 123; and radionuclides in structures (such as buildings, storm drains, and sanitary sewers) and in soil. Notable environmental conditions in Parcel B-1 in the vicinity of the project Site are depicted in Figure 4.

Installation Restoration (IR) site IR-42 is located within the HPAP Site boundaries (Figure 4). IR-42 includes Building 109 (a former Police Station), Building 113 (a former Tug Maintenance Shop and Salvage Divers Shop), and Building 113A (a former Machine Shop, Torpedo Maintenance Shop, Tug Maintenance Shop, and Electrical Substation). Chemicals of concern identified at IR-42 include metals, SVOCs, and PCBs. From the information gathered during the remedial investigation, feasibility study and RA, the possible sources were identified to be naturally occurring or

anthropogenic metals and petroleum-related contamination. Approximately 300 cubic yards of soil were removed as part of the RA. The amended ROD (Navy, 2009) and the Technical Memorandum in Support of a ROD Amendment (ChaduxTt, 2007) for Parcel B-1 provide more details on the nature and extent of contamination in IR-42.

The RA in Parcel B-1 was completed in 2012. The remedy for soil and groundwater at Parcel B-1 includes: 1) excavations to remove soil in selected areas where chemicals of concern (COCs) exceed remedial goals (RGs) based on planned reuse; 2) installation of Durable Covers including a two-foot thick layer of clean soil, asphaltic concrete (AC); 3) repair of existing building foundations; 4) expansion of a soil vapor extraction (SVE) system; and 5) injection of polylactate into the groundwater as described in the final RACR (ERRG, 2014b). The remedial action work that was conducted within the limits of the HPAP project area includes excavations and installation of the Durable Cover. The Durable Cover provides a physical barrier to prevent exposure of humans and wildlife to residual COCs in soil.

2.2 Parcel C

Industrial and radiological research activities conducted by the Navy or other tenants at Parcel C have resulted in metals (primarily arsenic, lead, zinc and manganese), polycyclic aromatic hydrocarbons (PAHs), VOCs, and PCBs in soil; VOCs, SVOCs, PAHs, and metals (especially hexavalent chromium [Cr6+] and zinc) in groundwater; and radionuclides in structures (such as buildings) and in soil. Notable environmental conditions occurring in Parcel C in the vicinity of the project Site are depicted in Figure 5.

The selected remedies that are being or have been implemented in Parcel C include: 1) excavations to remove soil in selected areas where COCs exceed RGs based on planned reuse; 2) SVE to address VOC-contaminated soil and soil gas above groundwater plumes; and 3) Durable Covers to cut off potential exposure to ubiquitous metals and any remaining COCs in soil. The RA work that was conducted within the limits of the HPAP project area includes excavations, SVE, monitored natural attenuation (groundwater only), and installation of the Durable Cover. Durable Covers will include existing asphalt and concrete surfaces, buildings, and engineered soil covers. The Durable Covers will be installed in accordance with the Parcel C Remedial Design (CH2M HILL Kleinfelder, A Joint Venture [KCH], 2012).

2.3 Parcel UC-2

Parcel UC-2 includes portions of Fisher Avenue and Robinson Street and is bounded on the north, east, and south by Parcel C and on the west by Parcel UC-1 and former Parcel A. Most of the area associated with Parcel UC-2 has historically been a paved roadway or parking area. Historical use of the southern portion of Parcel UC-2 is as a roadway (Fisher Avenue), and the northern portion is as a triangularly shaped parking lot. The property is mostly paved, except for the steep unpaved hillside bordering Fisher Avenue, which is covered by vegetation (ChaduxTt, 2013).

Certain COCs remain in soil, soil vapor, and groundwater at Parcel UC-2 at levels and in conditions that the FFA Signatories have determined are consistent with the ROD RA Objectives. The COCs that remain in soil at Parcel UC-2 include naturally-occurring metals (specifically, arsenic and manganese) and PAHs (Navy, 2009a and Navy, 2009b). COCs in soil vapor that remain include VOCs, (specifically, benzene, chloroform, and TCE, vinyl chloride and their degradation products; [ChaduxTt, 2013]). Notable environmental conditions are depicted in Figure 6.

Soil Vapor

Parcel UC-2 includes an Area Requiring Institutional Controls (ARIC) for VOCs in soil vapor as identified on Figure 5. Utility work in these areas must comply with standards and protocols as set forth in Sections 5.7.2 and 5.7.3 of the RMP. No enclosed structures are planned for the ARIC for VOCs in soil vapor.

Groundwater

COCs in groundwater in Parcel UC-2 include carbon tetrachloride and chloroform; they are not present at levels that pose a health risk from dermal exposure and inhalation to construction workers (Navy, 2009a and Navy, 2009b). Carbon tetrachloride and chloroform have been detected in groundwater but have not been associated with an identified source (Figure 6). Except for this localized area, Parcel UC-2 is upgradient of other areas of groundwater contamination at HPS. The ROD for Parcel UC-2 selected monitored natural attenuation as the remedy for the low concentrations of carbon tetrachloride and chloroform in groundwater in the vicinity of groundwater remediation performance monitoring wells IR06MW54F and IR06MW55F. Groundwater is currently being monitored by the Navy in remediation performance monitoring wells

IR06MW54F and IR06MW55F as a component of the Basewide Groundwater Monitoring Program. The most recent groundwater monitoring results indicate that concentrations of chloroform and carbon tetrachloride slightly exceed remediation goals (Navy, 2014). Soil vapor sampling results collected in this area in 2010 identified that concentrations were below the level that would pose a risk to potential future residential receptors via vapor intrusion under documented site conditions. Work in these areas must comply with standards and protocols as set forth in Section 4.10.

Components of the remedy that remain to ensure that human health and environment are protected from potential long-term health risks include:

- Durable Covers over the entire Parcel to prevent contact with residual ubiquitous metals. The Parcel UC-2 Durable Cover is defined as hardscape (e.g., asphalt, building foundations, concrete pads, sidewalks, etc.) or two feet of clean imported soil fill in the RODs (Navy, 2009a and Navy, 2009b), RD (Navy, 2010a), and RAWP (Navy, 2012).
- Groundwater monitoring at two wells in Parcel UC-2 to verify that natural attenuation continues to progress and to meet the RGs defined in the UC-2 ROD (Navy, 2009a).
- Land use and activity restrictions and ICs, implemented through a CRUP and federal quitclaim deed, to prevent or minimize exposure to residual COCs in the soil, soil gas, and groundwater. The entire Parcel includes restrictions related to the durable cover (General Area Requiring Institutional Controls or ARIC) and a portion of the Parcel includes restrictions related to VOCs in soil vapor (ARIC for VOCs in soil vapor).

The requirements for inspection, maintenance, and reporting of these components of the remedy are provided in the O&M Plan for Parcels UC-1 and UC-2 (Navy, 2013).

The radiological corrective actions in Parcel UC-2 are complete, and no radiological restrictions remain on Parcel UC-2. California Department of Public Health (CDPH) issued the Radiological Unrestricted Release Recommendation for Parcel UC-2 in 2011 stating that Parcel UC-2 is suitable for unrestricted use with respect to radiological constituents (DTSC, 2011).

3. WORK TO BE CONDUCTED

Most of the HPAP project work lies within Parcel A. The HPAP construction work on Parcels B-1, C, and UC-2 involves clearing and grubbing vegetation, demolition of one building and hardscape, demolition of existing utilities, grading, and the construction of new utilities, streets, sidewalks, and landscaping and the new Artists' Building.

This section identifies the construction activities proposed in Parcels B-1, C, and UC-2 and describes how construction will impact the approved remedies. Work to be performed on each Parcel is summarized as follows:

- **Parcel B-1**: Work includes demolition of Building 109, its foundation, and associated utilities; clearing and grubbing of vegetation; removal of approximately 75 linear feet of Robinson Street and associated curb, gutter and sidewalk; removal of above grade structures and below grade utilities; excavation and rough grading of the existing ground surface; paving of a new roadway; and installation of a soil cover and landscaped areas.
- **Parcel C**: Work includes removal of approximately 380 linear feet of Robinson Street and the associated curb, gutter and sidewalk, clearing and grubbing of vegetation, removal of above grade structures, and below grade utilities, excavation and rough grading of the existing ground surface, installation of temporary utilities, paving of a new roadway; the installation of a stormwater conveyance culvert; and installation of a soil cover and landscaped areas.
- **Parcel UC-2**: Work includes removal of approximately 380 linear feet of Robinson Street and 25 linear feet of Horne Avenue along with the associated curb, gutter and sidewalk, clearing and grubbing of vegetation; removal of above grade structures, and below grade utilities; excavation and rough grading of the existing ground surface; installation of utility corridors; paving of a new roadway; construction of the northeast portion of the new Artists' Building; abandonment and reinstallation of groundwater monitoring wells IR06MW54F and IR06MW55F, while protecting well IR06MW56F in place; and, installation of a soil Durable Cover and landscaped areas.

The work described above will involve conducting Restricted Activities, as defined in the LUCRD and CRUP for Parcels B-1, C, and UC-2. Specifically, Restricted Activities will include the following:

- **Durable Cover:** Site demolition and mass grading activities will disturb the Durable Cover installed by the Navy in Parcels B-1 and UC-2. Durable Covers that will be affected in Parcel B-1 include the Building 109 foundation, soil cover, and asphalt cover. Durable Covers that will be affected in Parcel UC-2 include soil cover and asphalt cover (Figure 7). Durable Cover construction will be conducted as described in Section 4.3 of this Work Plan.
- **Soil Management**: Grading and earthwork, described above, will result in HPS Bay Fill and Native soil/bedrock being graded and relocated from its current location. HPS Bay Fill as defined in the RMP is a non-native historically imported fill that was placed bay ward of the original shoreline and/or placed on top of native bedrock and soil to create the current footprint of HPS. The HPS Bay Fill and Native soil/bedrock potentially contains naturally occurring asbestos and naturally occurring metals. Where possible, HPS Bay Fill and native soil will be placed under a Durable Cover that is constructed in conjunction with this project. Surplus soil that cannot be placed under a Durable Cover associated with this project will be stockpiled in Parcel G (Figure 8). Soil handling and stockpiling will be conducted in accordance with the protocol described in Section 4.5.
- **Groundwater Monitoring Wells**: Demolition, grading, and construction activities will impact existing groundwater monitoring wells in Parcel UC-2. Some monitoring wells will require relocation and some well heads will require modification to adjust to the new ground surface. Work affecting groundwater monitoring wells will be conducted in accordance with the protocol described in Section 4.12. It is anticipated that work will affect Parcel UC-2 wells IR06MW54F, IR06MW55F, and IR06MW56F.
- **COCs in Groundwater**: Because significant earthwork will take place in Parcel UC-2 within 100 feet of the existing remediation performance monitoring wells IR06MW54F and IR06MW55F (see Section 2.0) where residual levels of VOCs exist in groundwater, a soil vapor assessment or vapor intrusion mitigation will be required for Inhabited Buildings that are proposed to be constructed within 100 feet of these remediation performance monitoring wells, even though that area is not designated as a VOC ARIC. This work would follow the protocol outlined in Section 4.10.2 of this Work Plan.

- **Soil Vapor ARIC**: Demolition, grading, and construction work will occur in the portion of UC-2 that is designated as an ARIC for VOC vapors in soil. Utility work and Inhabited Buildings constructed within the VOC ARIC must follow the protocol outlined in Section 4.10.1 of this Work Plan.

Construction activities are scheduled to commence on 28 August 2015 and be completed by January 2017. A copy of the current tentative construction schedule is included in Appendix A. Removal of the existing Durable Cover components is scheduled to commence on 18 September 2015. The date that the Durable Cover is expected to be completely restored is estimated to be 6 January 2017. This will account for a period of 15 months that the Durable Cover will not be in place. During this period of time, the Site access will be controlled, as described in Section 4. 2, dust control and real-time monitoring will be conducted, as described in Section 4.5, and stormwater runoff will be managed under a Storm Water Pollution Prevention Plan (SWPPP), as described in Section 4.7.

4. RISK MANAGEMENT MEASURES DURING RESTRICTED ACTIVITIES

4.1 Construction Worker Health and Safety Plan

Construction contractors, maintenance contractors, and utility contractors whose workers may contact potentially contaminated soil, soil vapor, or groundwater from the Site, are required to prepare site-specific Environmental Health and Safety Plans (EHSPs) under the direction of a Certified Industrial Hygienist (CIH) and in a manner consistent with applicable occupational health and safety standards, including, but not limited to Occupational Safety and Health Administration (OSHA) regulation OSHA 1910.120. The contractor-specific EHSPs will be maintained by the contractor at the Site. Nothing in this section is intended to relieve any person, including contractors or employers, of other mandated worker health and safety planning and training requirements under any federal, state, or local statute or regulations.

It is the responsibility of the contractor preparing their EHSP to review information available in the HPS information repositories (see Section 2.0) regarding site conditions and associated potential health and safety concerns (see Section 2.0 for each Parcel). It is also the responsibility of the contractor or other person preparing an EHSP to verify that the components of the EHSP are consistent with applicable Cal/OSHA occupational health and safety standards and currently available toxicological information for potential COCs at the work site. Contractor compliance with the RMP obligations will be specified in the contract documentation for the contractors performing subsurface work. Each contractor must require its employees who may directly contact potentially contaminated Site soil or groundwater to perform all activities in accordance with the contractor's EHSP. Each construction contractor will assure that its onsite construction workers will have the appropriate level of health and safety training, site-specific training, and will use the appropriate level of personal protective equipment (PPE) as determined in the relevant EHSP based upon the evaluated job hazards and monitoring results. An example EHSP outline is included in Appendix B.

4.2 Construction Site Access and Control

Access to the site during construction activities will be limited to authorized personnel in compliance with EHSP requirements (Section 4.1). The potential for trespassers or

visitors to gain access to construction areas and come into direct contact with potentially contaminated soil or groundwater will be controlled through the implementation of the following access and perimeter security measures:

- Except in streets, security fencing will be placed around any Site without a FFA Signatory approved Durable Cover or where the Durable Cover has been disturbed to prevent pedestrian/vehicular entry except at controlled (gated) points. Gates will be closed and locked during non-construction hours. Fencing will consist of a 6-foot chain link or equivalent fence unless particular safety considerations warrant the use of a higher fence. Use of fences during small routine maintenance activities will be determined in the EHSP.
- In streets, use a combination of K-rails or similar barriers and fences with locked gates.
- Post "No Trespassing" signs every 200 feet.
- Post signs every 200 feet warning that the area within the fenced areas may contain chemicals that may be harmful to human health.
- "No Trespassing" and warning signs should be in multiple languages commonly spoken in the local community and should include a phone contact.

Implementation of appropriate site-specific measures as outlined above will reduce the potential for trespassers or visitors to gain access to construction areas and to come into direct contact with soil or groundwater. Compliance with the specific access control measures is the responsibility of the Owner and General Contractor.

4.3 Durable Cover Protocols

This Section presents protocols to be followed when temporarily removing and then replacing the Durable Cover during Restricted Activities in Parcels B-1 and UC-2. Durable Covers include existing concrete building foundations, asphalt, concrete covers (e.g., existing roads and paved parking areas), and soil covers with a minimum thickness of two feet. Where HPAP construction work requires the temporary removal and eventual replacement of the Durable Cover, then the protocol presented in this Section will be followed. All land-disturbing activity where the existing Durable Cover has been removed and HPS Bay Fill and/or Native soil is exposed will follow the protocol for access control (Section 4.2), the Combined Asbestos Dust Monitoring Plan

(ADMP) and Dust Control Plan (DCP) (Section 4.4.2 and Appendix C), and the construction SWPPP (Section 4.7). Construction of new Durable Covers will comply with the specifications presented in the Navy RD reports specific to the area of work, the construction documents, and local building codes and ordinances. A general summary of these requirements is presented in Sections 4.3.1 and 4.3.2. Figure 7 presents the planned final cover configuration in the area of work addressed in this Work Plan.

4.3.1 Soil Cover

When digging in areas of existing soil Durable Covers, workers will remove any existing soil Durable Cover material and segregate from any removed HPS Bay fill/Native Soil. (HPS Bay Fill and Native Soil may be combined as the two will probably be indistinguishable). Any removed HPS Bay Fill/Native Soil will be stockpiled in the designated stockpile area (see Figure 8) and managed in accordance with the stockpile management protocols described in Section 4.4.1 of this Work Plan. A separate stockpile will be maintained for removed soil Durable Cover material for its eventual reuse as a new soil Durable Cover or incorporated into the HPS Bay Fill/Native Soil stockpile.

A new soil Durable Cover will be installed in portions of Parcels B-1, C and UC-2 (Figure 7). Figure 9 provides cross-sectional soil Durable Cover detail. Specifically, a soil Durable Cover will be installed at the following locations:

- The area in the vicinity of Building 109 (Parcel B-1);
- The vegetated slope north of the Horne Avenue and Robinson Street intersection (Parcels B-1 and C);
- The vegetated slope north of Robinson Street (Parcel C);
- The vegetated storm drain swale (Parcel C); and
- The landscape areas near the new Artists' Building (Parcel UC-2).

Soil covers will be constructed in accordance with the specifications identified in the Parcels B-1, C, and UC-2 RDs (ChaduxTt, 2010a and 2012; KCH, 2012; and ChaduxTt, 2010b). A minimum 2-feet thick cover of clean imported soil will be placed over existing native soils and slopes or excavations into native soil where previous Durable

Covers were removed in accordance with the Parcels B-1 and UC-2 RDs (ChaduxTt, 2010a and 2012; KCH, 2012; and ChaduxTt, 2010b). The existing slopes will be excavated along the boundaries of the soil cover area to allow the soil cover to slope to meet the existing grade along Robinson Street.

The existing slopes in Parcel C will be excavated along the toe of the slope to allow the soil cover to slope and meet the final grade. Existing features, such as utility poles or concrete walls, will be protected throughout construction of the soil Durable Cover. Controls will be implemented to prevent erosion and preserve the integrity of the slope until stabilization is achieved through vegetation.

A Construction SWPPP will be submitted under separate cover and will describe the temporary and construction erosion controls (see Section 4.7). Details regarding clearing and grubbing, earthwork, placement and compaction of soil, and installation of erosion controls are presented in the construction documents. Import fill material will comply with the Soil Impact Plan (SIP) (Appendix D) and the geotechnical requirements provided in the Construction Documents.

When construction is complete, the Owner will document that the soil Durable Cover was replaced with either the clean segregated soil or with 2 feet of imported clean soil that meets the SIP requirements. Annual Report documentation will include photographs of the work, measured Durable Cover thickness, an elevation survey, and a statement signed by the person(s) performing the maintenance activities that the work was completed as per this Durable Cover Protocol.

4.3.2 Asphalt and Concrete Durable Cover

A new asphalt and concrete Durable Cover will be installed in Parcels B-1, UC-2 and C at the intersection of Horne Avenue and Robinson Street (Figure 7). Figure 9 provides cross-sectional detail for the asphalt and concrete Durable Covers. Specifically the new asphalt and concrete Durable Covers will be installed in the following areas:

- The new alignment of Robinson Street (Parcel C and UC-2);
- The new alignment of the Horne Avenue and Robinson Street intersection (Parcels B-1 and C); and

- The northeast portion of the new Artists' Building foundation and associated concrete walkways (Parcel UC-2).

The asphalt and concrete Durable Covers will be constructed in accordance with the Parcels B, C, and UC-2 RD (ChaduxTt, 2010a and 2012; KCH, 2012; and ChaduxTt, 2010b and the Construction Documents). Imported fill and sub-base material will comply with the SIP (Appendix D) and the geotechnical requirements provided in the Construction Documents.

4.4 Soil Management

The General Contractor will comply with the requirements for all soil management activities as specified in this Section and the Construction Documents.

HPS Bay Fill and native soil located on Parcels B-1, C and UC-2 may be moved within any portion of the work area and soil from Parcel A may be moved within any portion of the work area, provided the soil is ultimately placed under a Durable Cover. HPS Bay Fill as defined in the RMP is a non-native historically imported fill that was placed bay ward of the original shoreline and/or placed on top of native bedrock and soil to create the current footprint of HPS. The HPS Bay Fill and Native soil/bedrock potentially contains naturally occurring asbestos and naturally occurring metals. In the event that placement of soil underneath the required Durable Cover cannot be accomplished, such soil will be stockpiled within the Site, with adequate protection, as further described in Section 4.4.1 below, or removed from the Site for offsite disposal. Soil will be designated for offsite disposal, only when there is a surplus of soil from mass grading or if it constitutes an unexpected condition as described in Section 4.8. Guidelines for off-site disposal are provided in Section 4.4.4, below.

4.4.1 Soil Stockpile Management Protocols

Stockpiling of excavated HPS Bay Fill and/or Native Soil may be necessary on a temporary basis to support the logistical phasing of the redevelopment activities. Soil stockpiles generated as a result of this project will be located in an open area in the southeast corner of Parcel G (Figure 8). Stockpiles that contain contaminated soil will be placed on a physical barrier that prevents the contamination of the underlying soil. Examples of a physical barrier are a plastic membrane, concrete surface, or asphalt surface. Stockpiles will be labeled, covered, and monitored as documented in the DCP

(Appendix C) to prevent the windblown transport of contaminated dust from the stockpile.

Management of stockpiles containing hazardous substances and/or petroleum substances will include Site access control, storm water runoff control, and dust control requirements identified in this Work Plan. Access control will be accomplished as outlined in Section 4.2 of this Work Plan. Storm water runoff requirements will be specified in a project-specific SWPPP as identified in Section 4.5 of this Work Plan. The DCP that will apply to all work is summarized below, and the detailed plan is included in Appendix C.

Stockpiles will be under control of the Owner at all times and inspected/monitored as specified in the SWPPP and DCP to ensure access control, dust control, and runoff control measures are functioning adequately. At a minimum, stockpiles will be monitored by the contractor at least weekly to verify that the various controls are in place and functioning as intended.

4.4.2 Dust Emissions

Dust emissions are regulated under the San Francisco Health Code, Article 31. The DCP prepared for the Site identifies the measures that will be taken to reduce particulate emissions during demolition of existing structures, grading, soil handling and stockpiling, vehicle loading, utility work, truck traffic and construction of site infrastructure. The DCP has been prepared in accordance with the requirements in Article 31 of the San Francisco Health Code and certain BAAQMD regulations often applicable to redevelopment activities. Exposure of onsite construction workers to dust containing COCs will be minimized, and generation of nuisance dust will also be minimized to comply with Article 31 of the San Francisco Health Code. The DCP is attached as Appendix C.

Naturally Occurring Asbestos (NOA) has been found in the serpentine bedrock and soil throughout the HPS area. Large construction projects occurring within these areas are subject to the California Air Resources Board ATCM. For projects where surface soil will be disturbed in an area of one acre or larger (as defined in the ATCM), an ADMP approved by the BAAQMD is required. Due to the size of land that will be affected by the planned construction work, the suspected presence of NOA in the fill, and the

proximity to NOA-containing bedrock, an ADMP has been prepared for this Site and incorporated into the DCP in Appendix C.

4.4.3 Soil Import Criteria

All soil imported from areas outside HPS will be subject to sampling and soil quality controls established in a SIP. A SIP has been prepared for the HPAP and is included as Appendix D. The SIP is consistent with the most current version of DTSC's October 2001 Clean Imported Fill Material Information Advisory. Soil import criteria will meet the most stringent of the most recent revision of the USEPA Regional Screening Levels (RSLs) for residential soils (USEPA, May 2014), the California RWQCB Environmental Screening Levels (ESLs) (RWQCB, December 2013), or the DTSC soil screening levels that are applicable at the time work is being conducted. For Total Petroleum Hydrocarbons (TPH), the soil import criteria will meet the most recent Tier 1 ESL for TPH as gasoline, diesel, and motor oil, respectively. Soil with COC concentrations that are equal to or below their respective RSL or Tier 1 ESL is approved for import and will be suitable for use as a Durable Cover and/or general fill at the Site.

4.4.4 Offsite Disposal of Soil and Wastes

Offsite soil disposal is not anticipated during this project; however, offsite disposal will be subject to all applicable federal and state laws and regulations. All activities associated with waste disposal, such as truck loading, truck traffic, and decontamination of trucks leaving the facility will be performed in accordance with the applicable protocol outlined in this Section 4.

CP DevCo and the General Contractor are responsible for characterization of waste prior to transportation and offsite disposal. Characterization for disposal will be in accordance with the requirements of Title 22 of the California Code of Regulations (CCR), Division 4.5, Chapter 11 and the requirements of the disposal facility and any other applicable law. Labeling requirements for transportation of waste will be in accordance with Title 29 of the Code of Federal Regulations (CFR), Parts 172 and 173 and any other applicable law.

Scenario	Cumulative Risk	Hazard Index
Baseline	4×10^{-7}	Less than 1
Development Scenario A	3×10^{-6}	Less than 1
Development Scenario B	4×10^{-6}	Less than 1

The results for the Baseline Scenario (current conditions) are below the minimum cumulative risk threshold of 1×10^{-6} and the results for development Scenarios A and B only slightly exceed the threshold.

As a result of the preliminary vapor intrusion assessment, CP DevCo has elected to perform a soil vapor sampling investigation to identify the current presence of VOCs in soil vapor beneath the Artists Building. A Draft Activities Specific Work Plan for the soil vapor investigation was submitted under separate cover to FFA Signatories on 3 March 2015. CP DevCo also elected to voluntarily evaluate the need for installtion of a sub-slab passive venting system beneath the eastern portion of the new Artists' Building (Figure 11). If necessary, the sub-slab passive venting system will be constructed to form a nominal 4-inch vented space beneath the building floor slab. The space will be passively vented to the atmosphere through vent pipes that exhaust to the atmosphere above the roof line. A schematic of the system is presented in Figure 12. If necessary, detailed design and construction drawings of the system will be submitted for FFA Signatory approval following completion of the soil vapor sampling investigation under separate cover.

4.7 Groundwater Management Protocols

As described in Section 2.0, VOCs are present in localized areas of groundwater within the work area in Parcel UC-2. However, the project plan does not currently call for excavation below the existing groundwater table, and no construction dewatering is anticipated. If excavation below the groundwater surface and construction dewatering is anticipated, a Groundwater Management Plan will be submitted under separate cover for review and approval by the FFA Signatories. The Plan will determine the appropriate protective measures to address worker safety and prevent the movement or spreading of any residual VOCs in groundwater. If perched water or groundwater is unexpectedly encountered during construction, the contractor will follow the protocol outlined in the Unexpected Conditions Response Plan (UCRP) presented in Section 4.8.

- Initial water level measurement;
- Permitting information; and,
- Disposition of installation-derived wastes.

The report shall be signed by a Registered Professional.

4.8 Unexpected Conditions Response

An Unexpected Condition is a condition observed in the soil, soil vapor, and/or groundwater that indicates the potential for Hazardous Substances and/or petroleum hydrocarbons to exist beneath the Site at a location that has not previously been identified, characterized, or remediated by the Navy. By way of example, unexpected conditions may include visibly discolored soil, soil exhibiting a chemical odor, the presence of an oily sheen or separate-phase petroleum product in the soil or groundwater, unexpected subsurface structures, radioactive materials, buried munitions or munitions constituents, or other visual or olfactory evidence of a historical release not previously identified. If in the course of evaluating the Unexpected Condition, the soil exhibits a total TPH concentration equal or greater than the Navy's petroleum Source Criterion for soil (3,500 milligrams per kilogram [mg/kg] total-TPH; Shaw 2007), the soil will be managed as if it contains separate-phase petroleum product.

The potential exists for encountering unexpected or unknown subsurface conditions within the Site during development construction. As part of the site-specific health and safety training that will be required of grading contractors and site construction workers (see Section 4.1), instruction will be given on how to identify and respond to potential Unexpected Conditions.

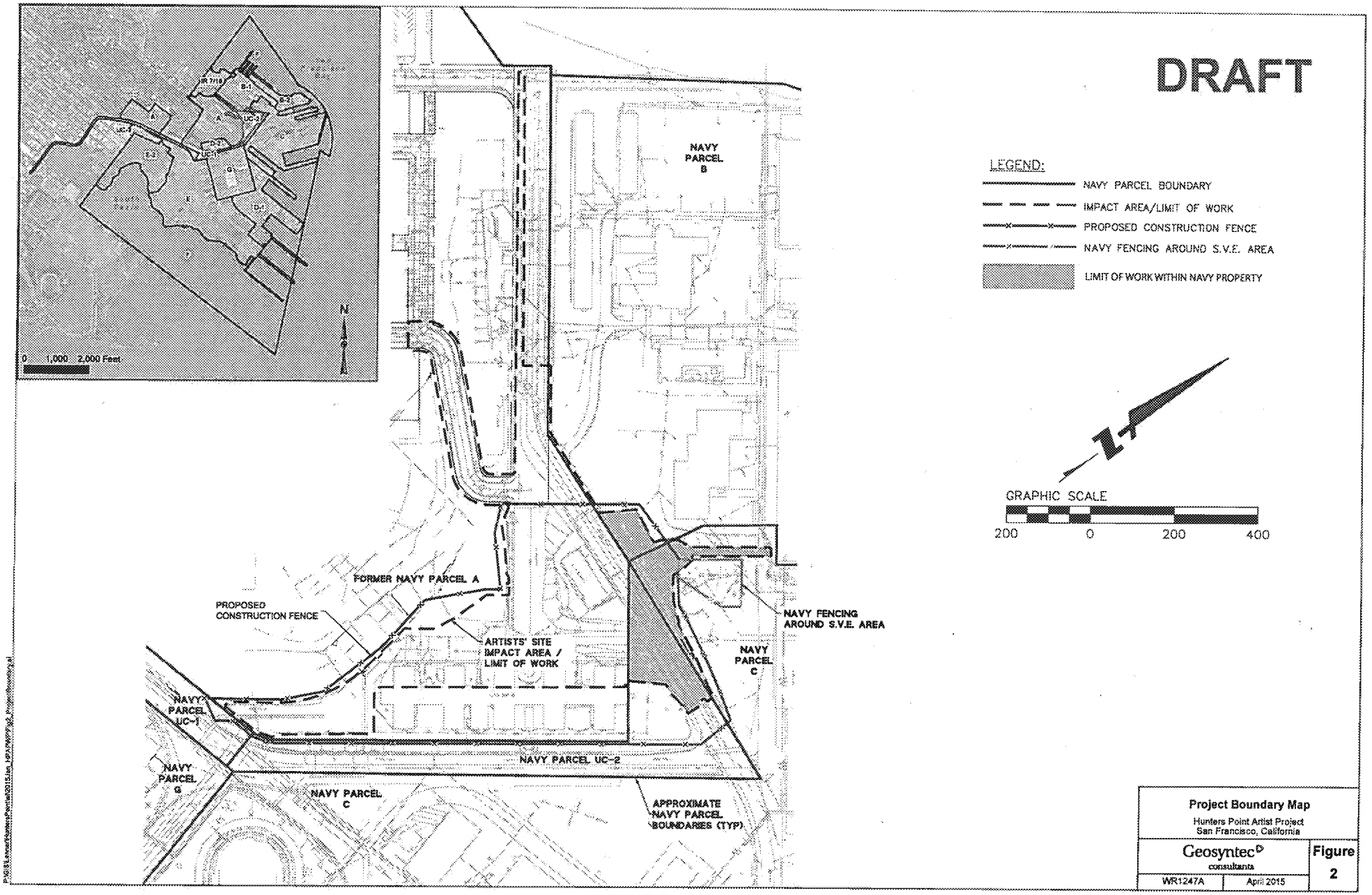
An UCRP has been prepared for the project and identifies how unexpected contamination shall be addressed in consultation with the SFDPH and FFA Signatories. A copy of the UCRP is included in Appendix G. Upon discovery of a potential Unexpected Condition, the Owner shall conduct an initial assessment to identify the nature of the condition. The initial preliminary assessment will be made in accordance with Section 1 of the UCRP. The nature of the condition will be described as one of two categories of conditions, as follows:

- **Category 1 Condition:** A Category 1 Condition could pose an immediate hazard to construction workers and warrants a timely and coordinated response between the contractor, developer, SFDPH, and the FFA Signatories. By way of example, Category 1 Conditions include radioactive materials and material potentially presenting an explosive hazard (MPPEH).
- **Category 2 Condition**: A Category 2 Condition is less likely to represent an immediate hazard to construction workers and warrants a response through the SFDPH in consultation with the FFA Signatories, as appropriate. By way of example, Category 2 Conditions include visual and/or olfactory evidence of hazardous substances and/or petroleum constituents in soil, soil gas, and/or groundwater.

If the condition is determined to be a Category 1 Condition, the Owner will stop work, secure the area, notify the SFDPH and FFA Signatories within 24 hours of designating a Category 1 Condition, and consult with FFA Signatories and the SFDPH to determine the appropriate response action. In the case of radioactive materials, the Owner will consult with SFDPH and FFA Signatories to determine the appropriate response and may request the Navy to take appropriate action. In the case of MPPEH, the Owner will consult with SFDPH and FFA Signatories to determine the appropriate response and, in the case of unexploded ordnance, notify the San Francisco Police Department Bomb Squad to take appropriate action.

If the condition is a Category 2 Condition, the Owner will temporarily suspend work and notify the SFDPH and FFA Signatories of the condition. In making the notification, the Owner will provide any information that it may have regarding the condition. The Owner will then follow the steps outlined in Section 2.2 of the UCRP (Appendix G) in consultation with the SFDPH and FFA Signatories to address the condition.

In accordance with the site-specific EHSP, appropriate measures will be undertaken to ensure worker safety in areas where Unexpected Conditions are encountered. The SSHO will be responsible for performing activity hazard analyses and evaluating any change in site conditions. The SSHO may stop work to determine if the level of site security and PPE is adequate.



APPENDIX B
Environmental Health and Safety Plan Outline

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APPENDIX B
Environmental Health and Safety Plan Outline

All EHSPs will include a description of specific tasks to be performed, key personnel, health and safety responsibilities, site background, job hazard analysis and mitigation, air monitoring procedures, PPE, work zones and site security measures, decontamination measures, general safe work practices, contingency plans and emergency information, medical surveillance and specific training requirements. An example outline of an EHSP is presented below:

SITE EMERGENCY INFORMATION

1.0 INTRODUCTION

- 1.1 Purpose of the Site Health and Safety Plan
- 1.2 Implementation and Modification of the Site Safety Plan
- 1.3 Project-Related Documents

2.0 BACKGROUND AND DESCRIPTION OF WORK

- 2.1 Site Description and Background
- 2.2 Scope of Work

3.0 KEY PERSONNEL ROLES AND RESPONSIBILITIES

- 3.1 Project and Task Managers
- 3.2 Field Supervisor
- 3.3 Site Health and Safety Officer
- 3.4 Competent Person
- 3.5 Subcontractors, Visitors and Other Onsite Personnel

4.0 JOB HAZARD ANALYSIS

PRC Environmental Management, Inc.

Adapted from Harding Lawson Associates

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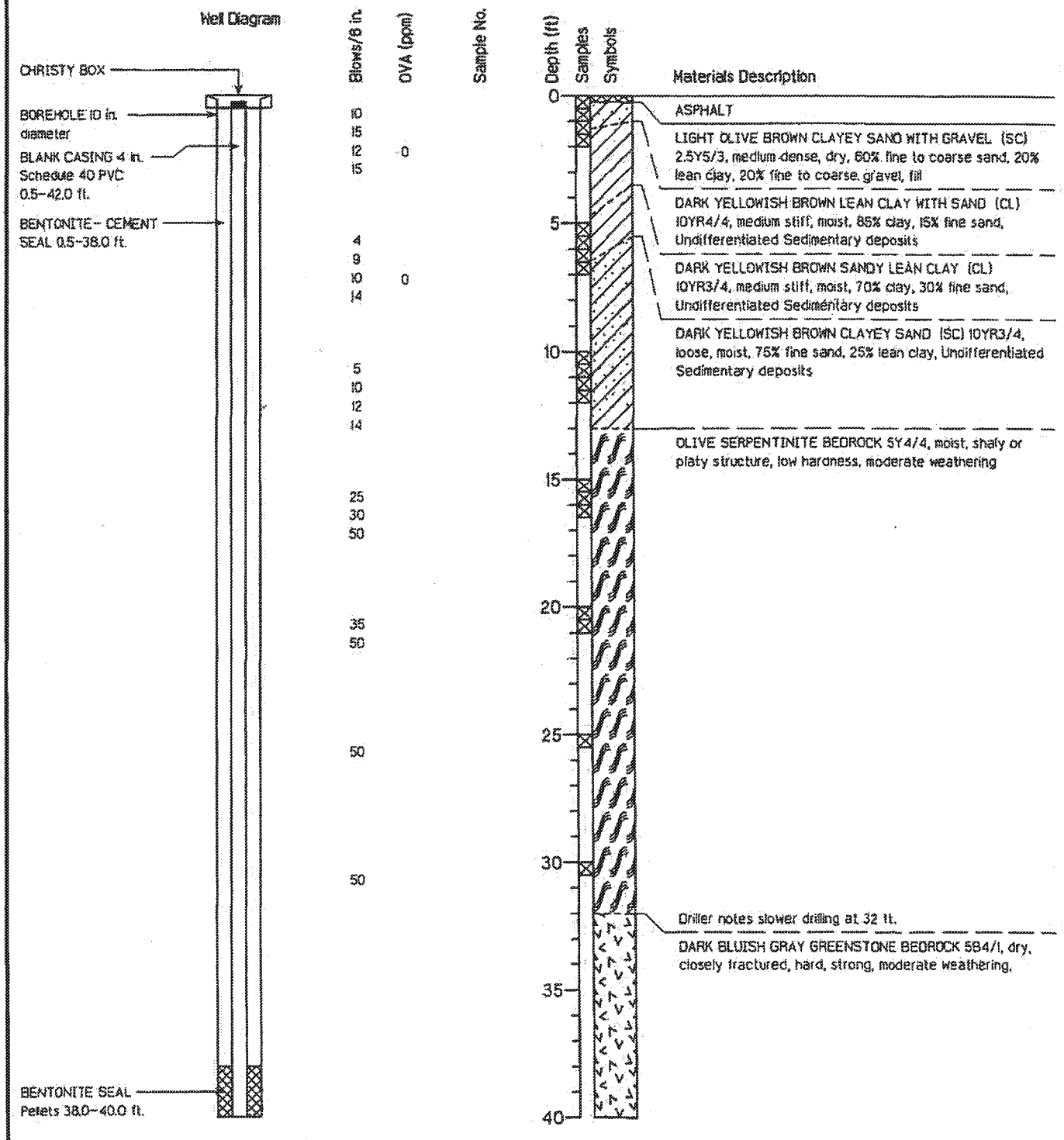

Project Number	11400.1402	Date Drilled	12/09/1993
Project Name	Parcel B RI Report	GS Elevation	35.86 ft.
Project Task	Hunters Point Annex	Water Level	None Encountered
Project Location	San Francisco, California	Total Depth Of Hole	53 ft.
Equipment	Drill Systems 1000 (ACH), 10 in. diam.		

Figure

APPENDIX G

Unexpected Conditions Response Plan

(Final Risk Management Plan - Appendix H, March 2015, Rev. 0)

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UNEXPECTED CONDITION RESPONSE PLAN

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FLOWCHARTS

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1. UNEXPECTED CONDITIONS – APPROACH

This Unexpected Condition Response Plan (UCRP) addresses the discovery of Unexpected Conditions during development activities within the Property. Although investigation and remediation has already been implemented by the Navy and an approved remedy is in place, Unexpected Conditions could potentially be encountered during the course of development. An Unexpected Condition is a condition observed in the soil, soil vapor, sediment and/or groundwater that indicates the potential for hazardous substances and/or petroleum substances to exist beneath the Property at a location that has not previously been identified, characterized, or remediated by the Navy. By way of example, Unexpected Conditions may include visibly discolored soil and/or contaminated groundwater in an area not previously identified by the Navy, soil and/or groundwater exhibiting a strong chemical odor in an area not previously identified by the Navy, unexpected subsurface structures (e.g., pits, sumps, underground storage tanks, etc.), radioactive materials, material potentially presenting an explosive hazard (MPPEH), and/or other visual or olfactory evidence of a historical release at a location not previously identified by the Navy.

This UCRP establishes protocols for the assessment and response to the discovery of an Unexpected Condition and for a path forward such that development activities can continue safely and timely within the context of the approved remedy. The UCRP protocols provide for initial oversight by and consultation with the San Francisco Department of Public Health (SFDPH); for notification to and consultation with the Federal Facility Agreement (FFA) Signatories; and for possible longer-term oversight by the FFA Signatories depending on the circumstances and nature of the response. As a component of the Site-specific health and safety training that will be required of equipment operators and site workers, instruction will be given on how to identify and respond to potential Unexpected Conditions. Details of health and safety training, including additional onsite protocols for identification and handling of potentially hazardous materials, will be provided in the Site-specific Environmental Health and Safety Plan (EHSP), an outline for which is provided in Appendix D to this RMP.

This UCRP is intended to fulfill the requirements of Article 31 of the San Francisco Health Code (http://www.amlegal.com/nxt/gateway.dll/California/health/article31

hunterspointshipyard?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca) for preparation of an unknown contaminant contingency plan. The Owner may address Unexpected Conditions by following the steps outlined in this UCRP; however, at any time after the discovery of an Unexpected Condition, the Owner may elect to request the Navy to take responsibility for the condition. In addition, under specified circumstances the UCRP requires that the Owner consult with the FFA Signatories to determine whether a new CERCLA action by the Navy is required. If the Navy takes responsibility for the condition, the Owner must suspend all work at the location of the condition pending completion of Navy response to allow the Navy adequate access to implement the response.

2. RESPONSE PLAN

This Section identifies how Unexpected Conditions shall be addressed, the general approach of which is presented in the attached flowchart H-1. The primary objectives outlined in Flowchart H-1 are to: i) provide initial notification of and response to the discovered condition to the appropriate agencies; ii) assess if the Unexpected Condition is a Category 1 Condition (described below); iii) make a preliminary determination as to whether the condition qualifies as a potential Category 2 Condition; iv) prescribe the collection and analysis of initial samples; and v) determine whether any response action is required. A Category 2 Condition for which a response action is required will then follow the course of action specified in Flowcharts H-2 (pertaining to petroleum substances only) and H-3 (pertaining to hazardous substances or hazardous substances comingled with petroleum substances).

2.1 Initial Assessment Procedures

Upon the discovery of a potential Unexpected Condition, the Owner shall suspend work and immediately notify the Site Safety and Health Officer (SSHO). The SSHO will assist the Owner with the initial assessment procedures described herein to ensure that work proceeds in a safe manner.

After notifying the SSHO, the Owner must first conduct an initial assessment to identify the nature of the condition. The nature of the condition will be described as one of two categories of conditions, as follows:

- **Category 1 Condition**: A Category 1 Condition could be an immediate hazard to construction workers and warrants coordination between the developer, the SFDPH, and the FFA Signatories. Category 1 Conditions include radioactive materials and MPPEH. By way of example, radioactive materials include buried luminescent dials, radioactive aircraft deck markers, luminescent gauges and signs, and sandblast grit. MPPEH materials that might be found include empty shell casings, discarded spent military munitions, and munitions debris containing chemical residue.
- **Category 2 Condition**: A Category 2 Condition is less likely to represent an immediate hazard to construction workers and warrants coordination with the

SFDPH in consultation with the FFA Signatories, as appropriate. By way of example, Category 2 Conditions include hazardous substances and/or petroleum substances in soil, soil vapor, and/or groundwater. A Category 2 Condition may involve hazardous substances only, petroleum substances only, or a comingled condition of both. The preliminary determination will be made based on initial observations, field screening, and/or laboratory analyses, as described in Section 2.2 of this Appendix. As appropriate, initial assessment of the Unexpected Condition could also include excavation and segregation of soil that contains visual or olfactory evidence of hazardous or petroleum substances to provide an indication of the magnitude and geographic extent of the condition.

If the condition is determined to be a Category 1 Condition, the Owner will stop work, secure the area, notify the SFDPH and FFA Signatories within 24 hours of the determination that the condition is a Category 1 Condition, and Consult with FFA signatories to determine the appropriate response action. In the case of radioactive materials, the Owner will consult with SFDPH and FFA signatories to determine the appropriate response and may request the Navy to take appropriate action. In the case of MPPEH, the Owner will consult with SFDPH and FFA signatories to determine the appropriate response, and, in the case of suspected unexploded ordnance, notify the San Francisco Police Department Bomb Squad to take appropriate action. In either case, the FFA Signatories and the SFDPH may require that a response plan be submitted for review and approval prior to initiating the action. This process is documented in Flowchart H-1, Boxes 1, 1B, and 1C. Although work will be stopped at the location of the discovered Condition until an approved response action is completed, work may proceed at other locations not affected by the Condition, unless otherwise directed by the Navy, under the guidance of the Risk Management Plan (RMP).

If the Unexpected Condition is determined to be a Category 2 Condition, the Owner will notify the SFDPH and the FFA Signatories of the discovery within 24 hours of the determination that the Condition is a Category 2 Condition. Following the notification, the Owner will proceed with the initial assessment to determine the nature of the Condition. This process is documented in Flowchart H-1, Boxes 1A, 2, 2A, and 2B.

The initial assessment actions will be performed in accordance with applicable federal and state laws and regulations and the Site-specific EHSP and appropriate measures will

be undertaken to ensure that assessment activities will be conducted in a safe manner. The SSHO will be responsible for performing activity hazard analyses, evaluating any change in site conditions, and modifying the EHSP accordingly. The SSHO has the authority to stop work if an unsafe condition arises.

2.2 Category 2 Condition Assessment Procedures

Following the notification of the initial discovery and upon concurrence from the SFDPH and the FFA Signatories, the Owner will proceed with further assessment of a Category 2 Condition until the condition can be classified as a hazardous substance condition, petroleum substance condition, or a co-mingled condition. The assessment procedures are documented in Flowchart H-1, Boxes 2, 2A, and 2B. Assessment work shall be conducted by a competent and Registered Professional.

The assessment may include the use of one or more field screening instruments: organic vapor monitor (OVM), photoionization detector (PID) x-ray fluorescence (XRF), gamma ray spectrometer, etc., physical observation (visual and olfactory characteristics), and sampling and chemical testing of the exposed affected media (soil, soil gas, groundwater, sediment, etc.). The assessment of the Condition may also include excavation and segregation of soil that contains visual or olfactory evidence of contamination to provide an indication of the magnitude and geographic extent of the Condition. In the event that some amount of excavation will occur, the Owner will follow the soil management protocol specified in the RMP (Section 5.3). Field documentation will be generated that describes the location and type of the affected media, describes samples collected (number, location, type), conveys results of any field screening (OVM, PID, XRF, etc.) results, provides volume estimates of excavated/stockpiled material, and describes stockpile control measures.

The samples will be collected in accordance with industry standard protocols and collection procedures and regulatory agency guidance documents as identified by the competent and licensed professional overseeing the work. A minimum of one investigation sample and corresponding quality control (QC) samples (duplicate, travel blank, equipment blank, etc.) will be collected for each media (liquid in object, soil, sediment, soil vapor, or groundwater) that is suspected to be impacted. In addition to primary samples, duplicate samples and other applicable QC samples will be collected

and submitted for analysis. As an initial screen, collected samples may be analyzed for the following constituents:

- Volatile organic compounds (VOCs), including fuel oxygenates by EPA Test Method 8260B or approved equivalent;
- Semi-volatile organic compounds (SVOCs), including polycyclic aromatic hydrocarbons (PAHs) by EPA Test Method 8270C or approved equivalent;
- CAM 17 Metals by EPA Test Method 6010B/7400 or approved equivalent;
- Pesticides by EPA Test Method 608 or EPA Test Method 8081A or approved equivalent;
- Polychlorinated biphenyls (PCBs) by EPA Test Method 608 or EPA Test Method 8082 or approved equivalent;
- TPH-gasoline range organics (TPH-gasoline) by EPA Test Method 8015B or approved equivalent;
- TPH-diesel range organics (TPH-diesel) by EPA Test Method 8015B or approved equivalent;
- TPH-motor oil range organics (TPH-motor oil) by EPA Test Method 8015B or approved equivalent; and
- Radionuclides radium-226 and cesium-137 by EPA Methods 903.1 and 901.1 or approved equivalent.

Analyses will be selected to correspond with the suspected constituents of potential concern (COPCs) at the location being assessed. Conditions that will be considered in selecting the analysis include previous work conducted by the Navy at the location, known conditions as documented in Navy reports for the location, history of hazardous substance and/or petroleum use at the location as documented by the Navy, field observations, and other anecdotal information. The results of the initial sampling will be compared to the Petroleum Program Strategy Preliminary Screening Criteria (PSC) and/or applicable Record of Decision (ROD) remediation goals. In the event that a constituent is detected that is not listed in the Petroleum Program Strategy PSC and/or applicable ROD remediation goals, the most recent version of the EPA's Regional

Screening Levels (RSLs) and DTSC screening levels will be used. Evaluation of the analytical results will allow the Owner to make an initial determination whether the Condition is:

1. A Condition that does not require further response or regulatory oversight; or,
2. A petroleum Condition that requires further evaluation and response; or,
3. A hazardous substance/comingled Condition that requires further evaluation and response.

Based on the evaluation of the results of the chemical testing, the Owner will then inform the SFDPH and the FFA Signatories of its findings, conclusions, and recommendations (See Flowchart H-1, Boxes 2B and 3). If sampling and analysis is conducted without a FFA signatory approved QA/QC plan, the results will be subject to acceptance by the FFA signatories. The determination will be made, in summary, as follows:

No Further Response. No further response or regulatory oversight is required if: i) the Condition is a petroleum substance Condition; ii) petroleum constituents in samples are below Tier 1 Petroleum PSC; and iii) and the Condition is not a subsurface object or structure (Flowchart H-1, Boxes 4, 4A, 4B, and 4C). In addition, no further response or regulatory oversight is required if: i) the Condition is a hazardous substance/petroleum substance co-mingled Condition; ii) the hazardous substances in samples are below ROD remediation goals or RSL if not listed in the ROD; iii) any petroleum constituents are beneath Tier 1 Petroleum PSC; and iv) the Condition is not a subsurface object or structure. In such cases, the Owner shall notify SFDPH and the FFA Signatories of its findings (including analytical results), prepare and submit a Closure Report to the SFDPH and FFA Signatories, and upon approval of the Closure Report by the SFDPH and FFA Signatories proceed with redevelopment work under the guidance of the RMP (Flowchart H-1, Boxes 5, 5A, 5B, and 5C).

Additional Petroleum Evaluation and Response. Additional evaluation and response is required if: i) the Condition is a petroleum substance Condition; and ii) petroleum substances in samples are above Tier 1 Petroleum PSC; or iii) the Condition is a subsurface object or structure (Flowchart H-1, Boxes 4, 4A, 4D, and 4E). If in the

course of evaluating the Unexpected Condition, the soil exhibits a total TPH concentration equal or greater than the Navy's petroleum Source Criterion for soil (3,500 mg/kg total-total petroleum hydrocarbons), the soil will be managed as if it contains separate-phase petroleum product. In such cases, the Owner shall notify the SFDPH and the FFA Signatories of its findings (including analytical results) and proceed with the evaluation and response in conjunction with the development activities as described in Section 3 below and as identified in Flowchart H-2.

Additional Hazardous Substance Evaluation and Response. Additional evaluation and response is required if: i) the Condition is a hazardous substance/petroleum substance co-mingled Condition; ii) the concentration of the hazardous substances in samples are above applicable ROD remediation goals or RSL if not listed in the ROD; or iii) the Condition is a subsurface object or structure. In such cases, the Owner shall notify the SFDPH and the FFA Signatories of its findings (including analytical results) and proceed with the evaluation and response in conjunction with the development activities as described in Section 4 below and as specified in Flowchart H-1, Box 5, 5A, 5D, 5E, and Flowchart H-3.

3. PETROLEUM SUBSTANCE CONDITION

If the Owner, the SFDPH, and FFA Signatories have determined that the Unexpected Condition is a petroleum substance Condition, evaluation and response work will proceed following the process outlined in Flowchart H-2. In general, all work will comply with the Preliminary Screening Criteria and Petroleum Strategy (Shaw, 2007). Work will occur under the oversight of the RWQCB with notification to and consultation with the SFDPH as appropriate. Completion of petroleum substance evaluation and response under this UCRP will be documented in a Site Closure Report submitted for the RWQCB review and approval or, under certain circumstances identified below, preparation of a condition-specific CAP may be necessary, with RWQCB review and approval, in consultation with the SFDPH.

If the Unexpected Condition encountered is a physical object(s) determined to contain or have contained petroleum substances only, including such objects as a UST, pipelines, sump, drum or other containers, the object(s) will be removed in consultation with the RWQCB (Flowchart H-2, Box 2B), and in accordance with applicable SFDPH permitting procedures. Upon removal of the object(s), the surrounding material will be assessed for visual evidence, olfactory evidence, and with field instruments for evidence of petroleum substances. Affected material will be designated as such on the basis that it appears discolored, as compared to surrounding Bay Fill/native soil, and it exhibits a chemical odor, and field monitoring instruments register a concentration that exceeds levels typical of Bay Fill/Native soil. Removal of the affected material will proceed as presented in Section H3.1 and Flowchart H-2, Box 2A.

If there is no evidence of additional contamination in the excavation, other than the removed physical object, final confirmation soil samples from the excavation will be collected. Final confirmation soil samples will be collected for analysis in accordance with the procedures specified in the Petroleum Corrective Action Plan (PCAP). The collected soil samples will be analyzed for the following constituents, as applicable, and based on initial sample results of the contents of the removed object:

- TPH-gasoline;
- TPH-diesel;

- TPH-motor oil;
- BTEX, MTBE; and,
- PAHs.

Soil sample results will be screened against the Tier 1 Petroleum PSC for shallow soils (<10 feet below ground surface [bgs], residential reuse, non-drinking water resources) (Shaw, 2007). If soil samples contain COPCs above the Tier 1 Petroleum PSC, removal of the affected material or further evaluation will proceed as presented in Section 3.1.

If soil samples do not contain concentrations of petroleum substances above the Tier 1 Petroleum PSC and no groundwater was encountered, a Site Closeout Report will be prepared documenting a no further action recommendation for RWQCB approval. Upon submittal of the Closeout Report, development activities will continue under the guidance of the RMP or approved Restricted Activities Work Plan.

Groundwater encountered during the removal of the object(s) will be addressed as presented in Section 3.2.

3.1 Excavation of Petroleum Affected Material

If affected material is encountered during the removal of an object(s) or as a stand-alone material, excavation and segregation of the affected material will proceed. The excavated affected material will be segregated, stockpiled, and secured pending characterization sampling for reuse, further treatment, or offsite disposal (Flowchart H-2, Boxes 10B, 14, 14B, 15, 15B, and 14A). The excavation will incrementally extend laterally and vertically to the maximum extent feasible to remove affected material. Vertical excavation will extend until the affected material is removed to an initial depth of 10 feet bgs or groundwater is encountered, whichever is shallower. If affected material extends past the initial depth of removal (10 feet bgs or first groundwater, whichever is shallower), the RWQCB will be notified and consulted to determine if the residual contamination represents a human and/or ecological hazard based on existing subsurface conditions, nature of the contamination, and proposed development plan for the area. If, during the excavation of the affected material, the volume of the excavated

material exceeds 100 cubic yards, the RWQCB will be notified and excavation of additional material will continue.

Upon removal of the affected material, excavation confirmation samples will be collected for analysis in accordance with the procedures specified in the PCAP (ITSI, 2009). Excavation confirmation soil samples will be analyzed for the presence of the following constituents, as applicable, based on initial characterization results of the contents of the removed object and/or encountered stand-alone affected material:

- TPH-gasoline;
- TPH-diesel;
- TPH-motor oil;
- BTEX/ MTBE; and,
- PAHs.

The results of the excavation confirmation soil samples will be compared to the Tier 1 Petroleum PSC for shallow soil (Shaw, 2007).

If concentrations of petroleum substances remaining in the excavation are below the Tier 1 Petroleum Program Strategy screening levels, the RWQCB will be notified, excavation will stop, and characterization samples of the excavated segregated material will be collected as described in Section 3.3 (Flowchart H-2, Boxes 10, and 10B).

If, however, the concentrations of remaining chemicals of potential concern (COPCs) are above the Tier 1 Petroleum Program Strategy screening levels, an evaluation of the site conditions using the framework in the Low-Threat UST Case Closure Policy (SWRCB Resolution 2012-0016) will be made in consultation with the RWQCB. If the Low-Threat criteria evaluation indicates that the site is suitable for no further action, no additional soil removal will occur, and characterization samples will be collected from the excavated segregated material as per Section 3.3 (Flowchart H-2, Boxes 10A, 10B, and 11). If the Low-Threat Criteria evaluation indicates that the site requires further action, Owner shall consult with the RWQCB to determine whether excavation and

segregation of the affected material will continue, or whether preparation of a Site-specific CAP is required (Flowchart H-2, Box 10A, 11, 12, and 13).

3.2 Encountered Groundwater

If excavation of affected soil extends to groundwater and groundwater has a measureable TPH free-product thickness of greater than 0.01 feet, the RWQCB and SFDPH will be notified and both agencies consulted to determine if preparation of a Site-specific CAP is required (Flowchart H-2, Boxes 3A, 4A, 5A, and 7A). If groundwater without measurable free product is encountered, a groundwater sample will be collected and analyzed for the presence of the following constituents, as applicable, and based on initial characterization results of the contents of the removed object and/or encountered stand-alone affected material:

- TPH-gasoline;
- TPH-diesel,
- TPH- motor oil;
- BTEX/MTBE; and,
- PAHs.

Groundwater samples will be collected and analyzed according to the procedures outlined in the PCAP. Laboratory results of the collected groundwater sample will be compared to the Tier 1 Petroleum PSC and based on the location of the discovered Unexpected Condition (e.g., distance from the Bay Margin). If total TPH, BTEX, PAH, or MTBE concentrations in the collected groundwater sample exceed the Tier 1 Petroleum PSC for the location where the TPH Unexpected Condition was encountered, the SFDPH will be notified and consultation with the RWQCB will take place to determine if preparation of a Site-specific CAP is necessary (Flowchart H-2, Boxes 7B, 5A, and 7A). If encountered groundwater does not contain TPH COPCs above the Tier 1 Petroleum PSC, work will continue under the guidance of the RMP and the RWQCB will be notified (Flowchart H-2, Boxes 6A, 7B, and 8).

3.3 Segregated Material Characterization

Segregated material (e.g., soil) derived during removal of the encountered object(s) and/or as part of affected material excavation activities will be sampled for handling and waste disposal purposes. Composite sampling of the segregated material will not be allowed and the number of discrete, segregated material samples collected for waste profiling will be as follows (DTSC, 2001):

Volume of Segregated Material	Samples per Volume
Up to 1,000 cubic yards	1 discrete sample per 250 cubic yards
1,000 to 5,000 cubic yards	4 discrete samples for first 1,000 cubic yards plus 1 discrete sample per each additional 500 cubic yards
Greater than 5,000 cubic yards	12 discrete samples for first 5,000 cubic yards plus 1 discrete sample per additional 1,000 cubic yards

DTSC Information Advisory, Clean Imported Fill Material, October 2001.

Segregated material samples will be analyzed for the following constituents, as appropriate, and based on the initial characterization analytical results collected when the affected material was first encountered:

- TPH-gasoline;
- TPH-diesel;
- TPH-motor oil;
- BTEX, MTBE; and/or,
- PAHs.

Sample results will be provided to candidate waste disposal facilities for comparison with waste disposal acceptance criteria. The material will be disposed at a Class I, Class II, or Class III waste disposal facility that is permitted to accept the waste as characterized by the waste profile.

As an alternative to disposal at a Class I or Class II waste disposal facility, the Owner may consult with the RWQCB to determine if onsite treatment is an option (Flowchart H-2, Boxes 14B and 15). If onsite treatment is approved, the segregated material will be treated until petroleum COPC concentrations are below:

- Tier I Petroleum PSC for shallow soil; or,
- Soil Import Plan screening criteria; or,
- Waste acceptance criteria for Class III disposal.

Treated soil with COPC concentrations below the Tier 1 Petroleum PSC may be used as fill material and placed under the Durable Cover. Treated soil with petroleum COPC concentrations below the Soil Import Plan (Appendix F) screening criteria may be used as clean fill for the Durable Cover. Treated soil that is not used as onsite fill and that meets Class III disposal criteria may be disposed offsite at a Class III landfill. The Owner will notify the RWQCB of its intent to handle and place or dispose of the treated soil and prepare a Site Closeout Report for review and approval (Flowchart H-2, Box 14A).

If onsite treatment is not approved, the excavated material will be hauled offsite for disposal at a Class I, Class II, or Class III waste disposal facility that is permitted to accept the waste as characterized by the waste profile (Flowchart H-2, Box 15A). After disposal of the segregated material, no further action will be recommended and a Site Closure Report will be prepared and submitted for RWQCB approval.

4. HAZARDOUS SUBSTANCES CONTAMINATION

If, during the initial evaluation of the analytical results for a physical object and/or affected material (described herein at Section 2.2), the Unexpected Condition is determined to require additional evaluation and response (Flowchart H-1, Box 5E), the following process will be undertaken as outlined in the Hazardous Substances Unexpected Condition Flowchart (Flowchart H-3). Work will occur under the oversight of the SFDPH, except in two circumstances: i) where the work requires a new CERCLA action or decision document because hazardous substances are identified at levels above ROD remediation goals or a new hazardous substance is identified as specified in Sections 4.1 and 4.2 below; or ii) the SFDPH or the FFA Signatories determine on a case-by-case basis at any point in the process described in this Section H4.0 that it is more appropriate for technical or regulatory reasons for specific work to be conducted under the oversight of a designated FFA signatory. References to "SFDPH" in this section are deemed to be references to the designated FFA Signatory in any instance in which the SFDPH or the FFA Signatories have determined oversight by a designated FFA Signatory is appropriate. Completion of hazardous substances contamination evaluation and response under this UCRP will be documented in a Closure Report submitted for SFDPH review and approval. Where a new CERCLA action or decision document is determined to be necessary under the circumstances specified in Sections H4.1 and H4.2 below or an FFA Signatory oversees the work, the developer will obtain any necessary approvals from the appropriate FFA Signatory or FFA Signatories.

If the Unexpected Condition encountered is a physical object(s), including such items as USTs, sumps, drums, or other containers, the object(s) will be removed in consultation with the SFDPH and in accordance with applicable SFDPH permitting requirements, and the FFA Signatories will be notified (Flowchart H-3, Box 2B). Upon removal of the object(s), the surrounding material will be assessed for physical characteristics (visibly stained soil and chemical odor) and screened with field instruments for evidence of contamination. Affected material will be designated as such on the basis that is appears discolored, as compared to surrounding Bay Fill/Native Soil, it exhibits a chemical odor, and field monitoring instruments register a concentration that exceeds levels typical of Bay Fill/Native Soil. Removal of the affected material will proceed as presented in Section H4.1.

If there is no evidence of additional affected material in the excavation, other than the removed physical object, final soil confirmation samples will be collected from the excavation in accordance with the procedures outlined in the Navy's Parcel-specific Remedial Action Work Plan (RAWP). Collected soil samples will be analyzed for the following constituents, as applicable, and based on initial assessment results of the contents of the removed object:

- VOCs including MTBE;
- SVOCs;
- CAM 17 Metals;
- Pesticides;
- PCBs;
- TPH-gasoline;
- TPH-diesel; and,
- TPH-motor oil.

Collected soil sample results will be screened against the applicable ROD remediation goals or RSL if not listed in the ROD and Tier 1 Petroleum PSC. If soil samples contain COPCs above the applicable ROD remediation goals Tier 1 Petroleum PSC, or RSLs if not listed in the ROD, removal of the affected material will proceed as presented in Section H4.1.

If soil samples do not contain COPCs above ROD remediation goals Tier 1 Petroleum PSC, or RSLs if not listed in the ROD, a Closure Report will be prepared for SFDPH review and approval, the FFA Signatories will be notified, and work will continue under the guidance of the RMP (Flowchart H-3, Boxes 1, 2B, 3B, 4B, 5B, and 6B). If it is determined that no additional sampling of the excavation is necessary, and no groundwater was encountered (Flowchart H-3, Boxes 1, 2A, 3A, and 8), excavation will stop, and characterization of the excavated segregated material (excavated during the removal of the subsurface object) will proceed as per Section H4.3 (Flowchart H-3, Boxes 8, 9, and 9B).

Encountered groundwater during the removal of the object(s) will be addressed as presented in Section H4.2.

4.1 Excavation of Material with Hazardous Substances

If material with hazardous substances is encountered during the removal of an object(s) or as a stand-alone material, the excavated affected material will be segregated, stockpiled, and secured pending characterization sampling for reuse, further treatment, or offsite disposal as per Section H4.3. The excavation will incrementally extend laterally and vertically to the maximum extent feasible to remove obviously affected material. In the case of affected material that cannot be readily identified by physical characteristics, the use of field screening instrumentation such as a PID or OVM will be implemented to assess the appropriate lateral and vertical extent of the excavation. Vertical excavation will extend until obviously affected material is removed to a depth of 10 feet bgs or the depth at which groundwater is encountered, whichever is shallower.

Upon removal of the affected material, soil confirmation samples will be collected from the excavation as specified in the Navy's Parcel-specific RAWP. Soil confirmation samples will be analyzed for the presence of the following constituents, as applicable, and based on initial characterization results of the contents of the removed object and/or encountered stand-alone affected material:

- VOCs (including methyl tert-butyl ether [MTBE]);
- SVOCs;
- CAM 17 Metals;
- PCBs;
- Pesticides;
- TPH-gasoline;
- TPH-diesel; and,
- TPH-motor oil.

The results of the excavation confirmation samples will be compared to the applicable Parcel-specific ROD remediation goals or Tier 1 Petroleum PSC or RSLs if not listed in the ROD.

If concentrations of COPCs remaining in the excavation are below the applicable screening levels, the SFDPH and the FFA Signatories will be notified, excavation will stop, and characterization samples of the excavated segregated material will be collected as per Section 4.3 (Flowchart H-3, Box 9B).

If, however, the concentrations of remaining COPCs are above the applicable screening levels, the SFDPH and the FFA Signatories will be notified and consulted to determine if the residual contamination represents a human and/or ecological hazard based on existing subsurface conditions, nature of the contamination, and proposed development plan for the area, in which case, a new CERCLA action by the Navy may be necessary. Owner will prepare a technical memorandum and recommendation for FFA Signatory review and determination (Flowchart H-3, Box 9A).

4.2 Encountered Groundwater

If excavation of affected soil extends to groundwater, a groundwater sample will be collected in accordance with the Navy's Parcel-specific RAWP. The collected groundwater sample will be analyzed for the presence of the following constituents, as applicable, and based on initial characterization results of the contents of the removed object and/or encountered stand-alone affected material:

- VOCs (including MTBE);
- SVOCs;
- CAM 17 Metals;
- PCBs;
- Pesticides;
- TPH-gasoline;
- TPH-diesel; and,

- TPH-motor oil.

If COPCs concentrations in the collected groundwater sample exceed the applicable ROD remediation goal (Flowchart H-3, Box 5A), Tier 1 Petroleum PSC (if applicable), or RSLs if not listed in the ROD, the SFDPH will be notified and the FFA Signatories will be consulted to determine if a new CERCLA action is required. In this case, Owner will prepare a technical memorandum and recommendation for FFA Signatory review and determination. If the concentrations of COPCs in the groundwater sample do not exceed the appropriate screening levels, work will proceed under the guidance of the RMP under SFDPH oversight, and the FFA Signatories will be notified (Flowchart H-3, Box 7).

If VOCs are present, collection of soil vapor samples may be required according to the DTSC Vapor Intrusion Guidance (DTSC, 2011 and 2012) to evaluate whether the area should be designated as a VOC Area Requiring Institutional Controls (ARIC). The results of the soil vapor sample analysis will then be compared to the Soil Gas Action Levels (SGALs) established for the Site. If soil vapor sample(s) were collected and COPC concentrations in the collected soil vapor sample(s) exceed the applicable SGAL and the area is not already in a designated VOC ARIC, the SFDPH will be notified and the FFA Signatories will be consulted to determine if the area should be added to the VOC ARIC designation or whether other action is required (Flowchart H-3, Boxes 6, 6A, and 6C). If soil vapor sample(s) were collected and COPC concentrations in the collected soil vapor sample(s) do not exceed the appropriate SGALs, work will proceed under the guidance of the RMP under SFDPH oversight, and the FFA Signatories will be notified (Flowchart H-3, Box 6D).

4.3 Segregated Material Characterization

Segregated material (e.g., soil) will be sampled for characterization purposes. Composite sampling of the segregated material will not be allowed and the number of discrete segregated material samples collected for characterization will be as follows (DTSC, 2001):

Volume of Segregated Material	Samples per Volume

Up to 1,000 cubic yards	1 discrete sample per 250 cubic yards
1,000 to 5,000 cubic yards	4 discrete samples for first 1,000 cubic yards plus 1 sample per each additional 500 cubic yards
Greater than 5,000 cubic yards	12 discrete samples for first 5,000 cubic yards plus 1 discrete sample per additional 1,000 cubic yards

Data from DTSC Information Advisory, Clean Imported Fill Material, October 2001.

Samples will be analyzed for the following constituents, as applicable, and based on the initial characterization analytical results collected when the affected material was first encountered:

- VOCs, (including MTBE);
- SVOCs;
- CAM 17 Metals;
- PCBs;
- Pesticides;
- TPH-gasoline;
- TPH-diesel; and,
- TPH-motor oil.

Sample results will be provided to candidate waste disposal facilities for comparison with waste disposal acceptance criteria. The material will be disposed at a Class I, Class II, or Class III waste disposal facility that is permitted to accept the waste as characterized by the waste profile (Flowchart H-3, Boxes 9B, 10, 10A, 11, and 11B).

For segregated material with COPCs concentrations exceeding ROD remediation goals or RSLs if not listed in the ROD for soil, the SFDPH will be consulted to determine if onsite treatment of hazardous substance- contaminated soils is viable. If onsite treatment of contaminated soil is approved by the SFDPH, the soil will be treated and re-sampled until hazardous substance concentrations are below the applicable screening levels (Flowchart H-3, Boxes 9B, 10, 10A, 11, 11A, and 10B). Once ROD remediation

goals Tier 1 Petroleum PSC, and/or RSLs if not listed in the ROD have been met, the treated soil may be used as fill material and placed under the Durable Cover. A Closure Report will be prepared and submitted to the SFDPH for review and approval, the FFA Signatories will be notified, and additional work will proceed under the guidance of the RMP (Flowchart H-3, Box 10B).

If onsite treatment is not approved by the SFDPH, Owner will dispose of the material in accordance with applicable laws and regulations. The Owner will prepare a Closure Report for SFDPH approval and will notify the FFA Signatories (Flowchart H-3, Box 11B).

5. REFERENCES

Department of Toxic Substances Control (DTSC), 2001. Information Advisory, Clean Imported Fill Material. October.

DTSC, 2012, Advisory – Active Soil Gas Investigations. April

DTSC, 2011. Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October.

ITSI, 2009. Final Project Work Plan Petroleum Hydrocarbon Corrective Action Parcel B. June.

Shaw Environmental Inc. (Shaw), 2007. Final New Preliminary Screening Criteria and Petroleum Program Strategy, Hunters Point Shipyard, San Francisco, California. 21 December.

USEPA, 2014. Region IX Regional Screening Levels. May.

FLOWCHARTS

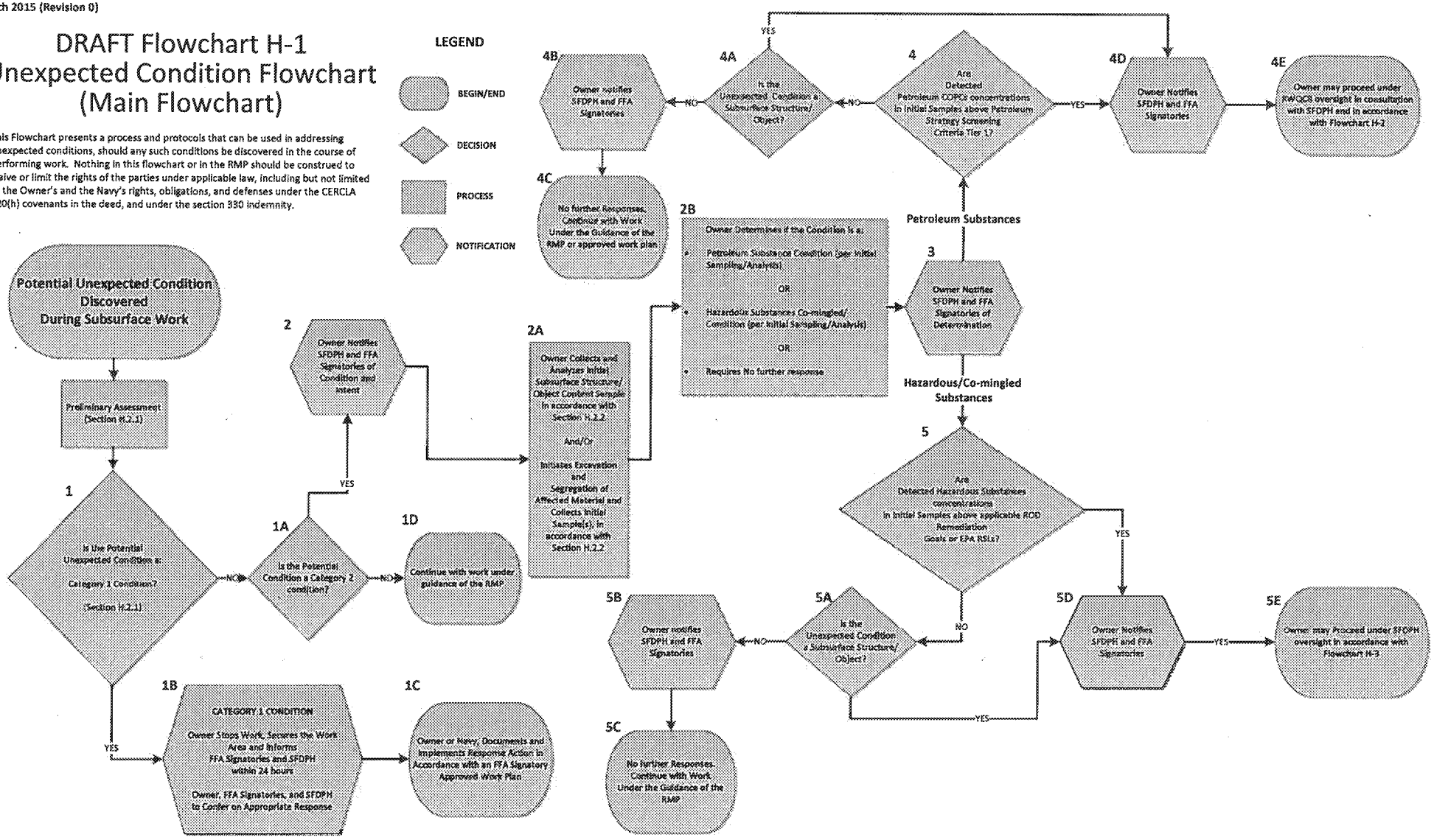
FLOWCHART H-1

Unexpected Condition Flowchart

March 2015 (Revision 0)

DRAFT Flowchart H-1
Unexpected Condition Flowchart (Main Flowchart)

This Flowchart presents a process and protocols that can be used in addressing unexpected conditions, should any such conditions be discovered in the course of performing work. Nothing in this flowchart or in the RMP should be construed to waive or limit the rights of the parties under applicable law, including but not limited to the Owner's and the Navy's rights, obligations, and defenses under the CERCLA 120(h) covenants in the deed, and under the section 330 indemnity.



REGULATORY AGENCIES:
US ENVIRONMENTAL PROTECTION AGENCY (EPA)
DEPARTMENT OF TOXICS SUBSTANCES AND CONTROL (DTSC)
REGIONAL WATER QUALITY CONTROL BOARD (RWQCB)
SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH (SFDPH)

FFA SIGNATORIES:
US ENVIRONMENTAL PROTECTION AGENCY (EPA)
DEPARTMENT OF TOXICS SUBSTANCES AND CONTROL (DTSC)
REGIONAL WATER QUALITY CONTROL BOARD (RWQCB)
US DEPARTMENT OF THE NAVY (NAVY)

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Category 1:
- Radiological materials
- MPPEH

Category 2:
- Hazardous substances
- Petroleum substances
- Commingled

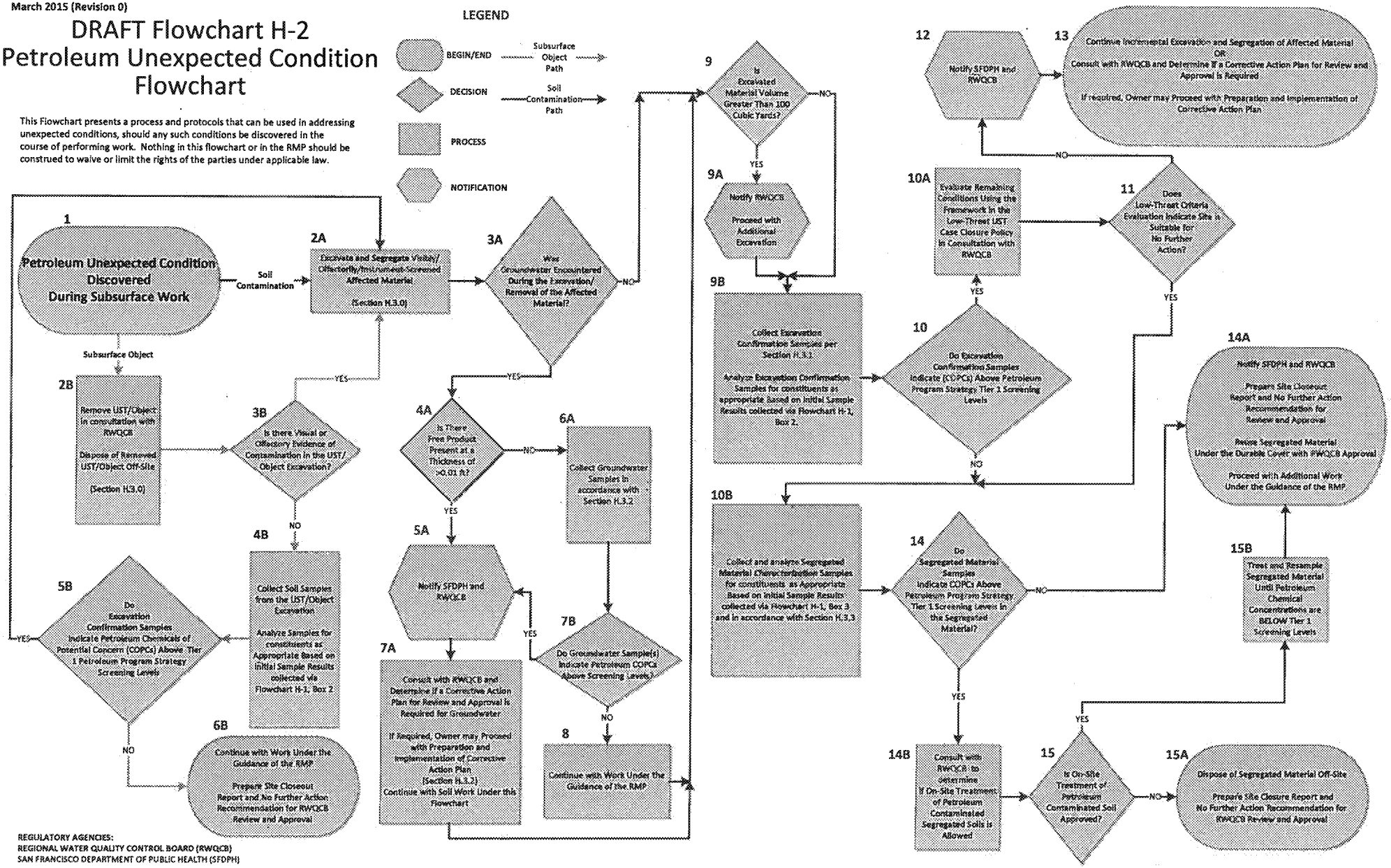
FLOWCHART H-2

Petroleum Unexpected Condition

March 2015 (Revision 0)

DRAFT Flowchart H-2 Petroleum Unexpected Condition Flowchart

This Flowchart presents a process and protocols that can be used in addressing unexpected conditions, should any such conditions be discovered in the course of performing work. Nothing in this flowchart or in the RMP should be construed to waive or limit the rights of the parties under applicable law.



REGULATORY AGENCIES:
REGIONAL WATER QUALITY CONTROL BOARD (RWQCB)
SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH (SFDPH)

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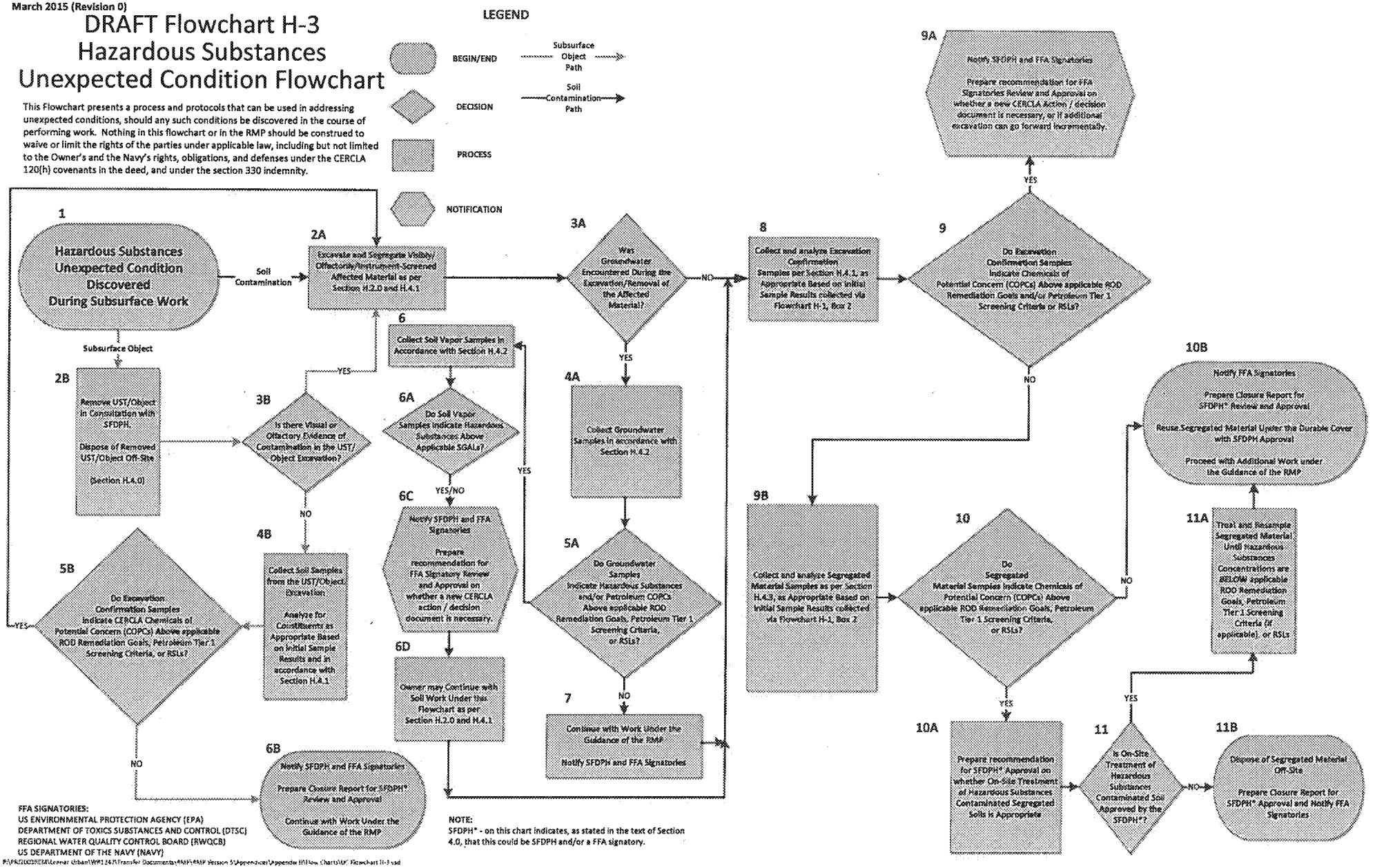
FLOWCHART H-3

Hazardous Substance Unexpected Condition

March 2015 (Revision 0)

DRAFT Flowchart H-3
Hazardous Substances
Unexpected Condition Flowchart

This Flowchart presents a process and protocols that can be used in addressing unexpected conditions, should any such conditions be discovered in the course of performing work. Nothing in this flowchart or in the RMP should be construed to waive or limit the rights of the parties under applicable law, including but not limited to the Owner's and the Navy's rights, obligations, and defenses under the CERCLA 120(h) covenants in the deed, and under the section 330 indemnity.



FFA SIGNATORIES:
US ENVIRONMENTAL PROTECTION AGENCY (EPA)
DEPARTMENT OF TOXICS SUBSTANCES AND CONTROL (DTSC)
REGIONAL WATER QUALITY CONTROL BOARD (RWQCB)
US DEPARTMENT OF THE NAVY (NAVY)

NOTE:
SFDPH* - on this chart indicates, as stated in the text of Section 4.0, that this could be SFDPH and/or a FFA signatory.

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